

REMARKS

Claims 1-20 and 22-40 are pending in this application. By this Amendment, claims 1, 13, and 37 are amended; claims 14-21 and 36 are canceled. Support for the amendments may be found, for example, in paragraph [0019], page 4 - page 5 of the specification as filed. No new matter is added. In view of the above amendment and the following remarks, reconsideration and allowance are respectfully requested.

Applicants thank the Examiner for the courtesies extended to Applicants' representative during the February 11 personal interview. Applicants' separate record of the substance of the interview is incorporated in the following remarks.

I. Response to Claim Rejections Based on 35 U.S.C. §103

The Office Action rejects claims 1-13, 21-35, and 37-40 under 35 U.S.C. §103(a) as being unpatentable over Applicant's admitted prior art or U.S. Patent No. 3,028,251 to Nagel (hereinafter "Nagel") in view of U.S. Patent No. 5,593,807 to Sacripante et al. (hereinafter "Sacripante"). By this Amendment, claim 21 is canceled, rendering its rejection moot. Applicants respectfully traverse the rejection.

Without conceding the propriety of the rejection, independent claims 1, 13, and 37 are amended to more clearly recite various features of the claimed invention with particular attention to the Examiner's comments. Specifically, claims 1, 13, and 37 are amended to include the expression "has a geometric size distribution of about 1.10 to about 1.25." It is believed that claims 1, 13, and 37 distinguish over the applied references for at least the reasons presented below.

The Office Action recognizes that Applicant's admitted prior art and Nagel fail to disclose a process of coating where the powder coating particles are formed by aggregating and coalescing particles in an aqueous dispersion and that Sacripante does not explicitly teach a particular application method for the particles. See Office Action, page 4. The Office

Action asserts: 1) in teaching toner particles, Sacripante is teaching making particles whose utility lies in the coating and subsequent fusing of particles (See Office Action, pages 4 and 5); and 2) it would have been obvious to utilize the particles in a conventional powder coating process such as Nagel. Therefore, one skilled in the art would allegedly have been motivated to combine the references by the desire and expectation of successfully providing a coating of the toner particles. Applicants respectfully disagree.

The admitted prior art and Nagel teach irregularly shaped particles in a wide range of sizes. In fact, Nagel teaches away from a powder coating composition having "a geometric size distribution of about 1.10 to about 1.25" as recited in claims 1, 13, and 37 and from using small particle sizes. Nagel discloses that larger average particle sizes are favored in a very broad range from "extremely small sizes of 5 microns" to about 600 microns; and a more narrow range of 50 microns to about 300 microns is preferred. See Nagel, col. 5, lines 17-21 and lines 43-67, and col. 6, lines 22-49. Col. 5, lines 43-67 and col. 6, lines 22-49 are reproduced below for convenience (emphasis added).

Col. 5, lines 43-67:

The control which can be exercised over the velocity of the gas passing through a fluidized bed makes possible the fluidation of embodiments of the composition in accordance with this invention which have widely different average particle sizes and it is for this reason that the average particle size can be varied over a broad range from extremely small sizes up to about 600 microns. However, I have found that above this range serious difficulties arise in the operation of the fluidized bed or in the coating produced by the composition.

I have found that a composition which has an average particle size which is too small often does not form a stable fluidized bed since the gas tends to accumulate as bubbles in the bottom of the bed before it rises through the bed. Furthermore, the extremely fine particles tend to agglomerate and form larger masses of solids, entirely aside from any tackiness of the resinous components of the composition. Both effects lead to a channeling of the gas through the bed and non-uniform fluidation of the bed. A pre-heated article to be coated receives non-uniform and imperfect coating upon

immersion in such a poorly fluidized bed. Also, extremely fine particles easily become entrained in the fluidizing gas and are lost from the bed as a suspension or cloud.

Col. 6, lines 42-49:

From the foregoing, it will be appreciated that, from the standpoint of particle size distribution, I prefer to have a relatively broad range of particle sizes which drops to sharply to zero percentage at the minimal and maximal ends of the distribution. This preference is in addition to that of having an average particle size falling within the range of about 50 microns to about 300 microns.

In contrast, Applicants' methods for powder coating utilize particles having, for example, an average volume diameter of less than 30 microns (claims 5 and 19), preferably from about 3 to about 20 microns (claim 6) and more preferably from about 3 to about 10 microns, and narrow geometric size distributions, for example, from about 1.10 to about 1.25 as measured by a particle sizing apparatus. See Specification, paragraph [0019], page 4 - page 5. Therefore, Nagel teaches away from the methods for powder coating having "a geometric size distribution of about 1.10 to about 1.25" as recited in claims 1, 13, and 37. As a result Applicant's admitted prior art, Nagel and Sacripante, considered either separately or combined, fail to teach each and every feature of claims 1, 13, and 37.

Furthermore, without conceding the propriety of the rejection, Applicants respectfully submit that if it was so easy to combine the earlier elements, then the combination should have been accomplished sooner. U.S. Patent No. 5,593,807 to Sacripante issued January 14, 1997. The need for processes to produce coatings that are not unnecessarily thick and non-uniform is not new; no technical obstacles had stood in the way; success was sure to bring substantial gains. The combination should have appeared much earlier, if it lay open to ordinary talent. Therefore, Applicants respectfully submit that one of ordinary skill in the art would not have arrived at the method of powder coating as recited in claims 1, 13, and 37

because the long felt need for processes to produce coatings that are not unnecessarily thick and non-uniform has remained unanswered until Applicants' disclosure.

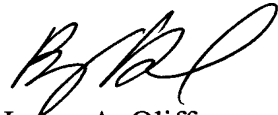
For at least the reasons discussed above, claims 1, 13, and 37 would not have been rendered obvious by Applicants' admitted prior art, Nagel and Sacripante. Claims 2-12, 22-35, and 38-40 variously depend from claims 1, 13, and 37 and, thus, would also not have been rendered obvious by Applicants' admitted prior art, Nagel and Sacripante. Accordingly, favorable reconsideration and withdrawal of the rejection are respectfully requested.

II. Conclusion

In view of the foregoing, it is respectfully submitted that this application is in condition for allowance. Favorable reconsideration and prompt allowance of the application are earnestly solicited.

Should the Examiner believe that anything further would be desirable in order to place this application in even better condition for allowance, the Examiner is invited to contact the undersigned at the telephone number set forth below.

Respectfully submitted,



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